

AMENDMENTS TO THE CLAIMS

A complete listing of claims is presented below with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing. Please replace all prior versions, and listings, of claims in the application with the following list of claims:

1-41 (Canceled)

42. (Currently Amended) A ~~composition comprising~~ an immunostimulatory nucleic acid, having a sequence including at least the following formula:

5' ~~TCNTX₁X₂CpGX₃X₄~~ 3' 5' TCGTCGTTTTGTCGTTTTGTCGTT 3' (SEQ ID No. 46)

~~wherein X₁, X₂, X₃, and X₄ are nucleotides, N is a nucleic acid sequence composed of from about 0-25 nucleotides, wherein at least one nucleotide has a phosphate backbone modification, and wherein the nucleic acid has less than or equal to 100 nucleotides, and wherein C is unmethylated.~~

43. (Currently Amended) The ~~composition~~ immunostimulatory nucleic acid of claim 42, wherein at least one nucleotide has a phosphate backbone modification and wherein the phosphate backbone modification is a phosphorothioate or phosphorodithioate modification.

44. (Currently Amended) The ~~composition~~ immunostimulatory nucleic acid of claim 42, wherein at least one nucleotide has a phosphate backbone modification and wherein the phosphate backbone modification occurs at the 5' end of the nucleic acid.

45. (Currently Amended) The ~~composition~~ immunostimulatory nucleic acid of claim 42, wherein at least one nucleotide has a phosphate backbone modification and wherein the phosphate backbone modification occurs at the 3' end of the nucleic acid.

46-50. (Canceled Herewith)

51. (Currently Amended) The ~~composition~~ immunostimulatory nucleic acid of claim 42, wherein the immunostimulatory nucleic acid is ~~8 to~~ less than 40 nucleotides in length.

52. (Canceled Herewith).

53. (Currently Amended) A method for stimulating an immune response, comprising administering to a subject the ~~composition~~ immunostimulatory nucleic acid of claim 42 in an effective amount to stimulate an immune response.

54. (Previously Presented) The method of claim 53, wherein the subject has or is at risk of developing asthma.

55. (Previously Presented) The method of claim 53, wherein the subject has or is at risk of developing allergy.

56. (Previously Presented) The method of claim 53, wherein the subject has or is at risk of developing cancer.

57. (Previously Presented) The method of claim 53, wherein the subject has or is at risk of developing infectious disease.

58. (New) The immunostimulatory nucleic acid of claim 42, wherein the immunostimulatory nucleic acid has a sequence consisting of TCGTCGTTTTGTCGTTTTGTCGTT (SEQ ID No. 46).

59. (New) The immunostimulatory nucleic acid of claim 58, wherein each internucleotide linkage has a phosphorothioate modification.

60. (New) The immunostimulatory nucleic acid of claim 58, further comprising an antigen.

61. (New) The immunostimulatory nucleic acid of claim 60, wherein the antigen is a vaccine and further comprising a conventional adjuvant.

62. (New) A method for treating cancer, comprising administering to a subject the immunostimulatory nucleic acid of claim 58 in an effective amount to treat cancer.

63. (New) A method for treating cancer, comprising administering to a subject the immunostimulatory nucleic acid of claim 59 in an effective amount to treat cancer.

64. (New) The method of claim 62, wherein the immunostimulatory nucleic acid is administered prior to along with or after administration of a chemotherapy.

65. (New) The method of claim 63, wherein the immunostimulatory nucleic acid is administered prior to along with or after administration of a chemotherapy.

66. (New) The method of claim 62, wherein the immunostimulatory nucleic acid is administered prior to along with or after administration of an immunotherapy.

67. (New) The method of claim 63, wherein the immunostimulatory nucleic acid is administered prior to along with or after administration of an immunotherapy.

68. (New) The method of claim 62, wherein the immunostimulatory nucleic acid is administered by injection.

69. (New) A method for generating an antibody in a mammal, comprising, administering to a mammal an effective amount of the immunostimulatory nucleic acid of claim 58 as an artificial adjuvant and an antigen to generate antibodies in the mammal.

70. (New) The method of claim 69, wherein the mammal is a human.

71. (New) The method of claim 69, further comprising isolating the antibody from the mammal.

72. (New) The method of claim 62, wherein the cancer is brain, lung, ovary, breast, prostate, or colon cancer

73. (New) The method of claim 62, wherein the cancer is a carcinomas or sarcoma.

74. (New) The immunostimulatory nucleic acid of claim 42, wherein the immunostimulatory nucleic acid is formulated as a composition with a pharmaceutically acceptable carrier.